

U.S. Patent Application Serial No. 10/802,027
Response filed February 21, 2007
Reply to OA dated December 7, 2006

AMENDMENTS TO THE CLAIMS:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

Claim 1 (Currently Amended): A filter for trapping foreign matter comprising:
an inflow chamber ~~(3a, 5a)~~ into which a fluid flows;
an outflow chamber ~~(11c)~~ from which flows the fluid that has flown into said inflow chamber
~~(3a, 5a)~~; and
a filter element ~~(3)~~ of a substantially cylindrical shape partitioning said two chambers,
wherein
said inflow chamber ~~(3a, 5a)~~ has a structure ~~(5, 7)~~ in which arranged such that the fluid that
flows into said inflow chamber ~~(3a, 5a)~~ is spouted up from ~~the~~ a bottom portion of said inflow
chamber ~~(3a, 5a)~~ and produces in a rising flow of said fluid such that the fluid is directed in a taper-
like fashion toward said filter element.

Claim 2 (Currently Amended): The filter for trapping foreign matter of claim 1, wherein
said inflow chamber ~~(3a, 5a)~~ has an inlet ~~(13i)~~ in the upper part thereof and ~~comprises a~~
~~guide (5) that~~ a portion of said structure directs the fluid that has flown in from said inlet ~~(13i)~~
toward the lower part of said inflow chamber ~~(3a, 5a)~~, directs it toward the bottom portion ~~(7)~~ of said

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inflow chamber (~~3a, 5a~~), causes it to rise from the bottom portion (~~7~~), and guides it so that it falls upon the filter element (~~3~~).

Claim 3 (Currently Amended): The filter for trapping foreign matter according to claim 2, wherein the cross section area of a flow path between said ~~guide (5)~~ portion of said structure and the bottom surface of said inflow chamber (~~3a, 5a~~) is narrowed so as to increase the flow velocity of said fluid.

Claim 4 (Currently Amended): The filter for trapping foreign matter according to claim 1, wherein said inflow chamber (~~27a~~) has an inlet (~~25a~~) in the bottom portion thereof and is constructed so that the flow of the fluid that has flown from the inlet (~~25a~~) into said inflow chamber (~~27a~~) rises from said bottom portion.

Claim 5 (Currently Amended): The filter for trapping foreign matter according to claim 4, wherein said ~~inflow chamber (27a) has a guide (29) that~~ structure forcibly guides to said filter element (~~27~~) the rising flow of the fluid that has flown from the bottom portion of the inlet (~~25a~~) into said inflow chamber (~~27a~~).

Claim 6 (Currently Amended): The filter for trapping foreign matter according to claim 1, wherein said inflow chamber (~~3a, 5a~~) has a streamline shape (~~7~~) preventing the stagnation of the

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fluid.

Claim 7 (Currently Amended): The filter for trapping foreign matter according to claim 1, further comprising a differential pressure sensor (~~/9~~) for detecting the difference in pressure between said inflow chamber (~~3a, 5a, 11c, or 31c~~) and said outflow chamber (~~31c or 11c~~).

Claim 8 (Currently Amended): A filter for trapping foreign matter comprising:
an inflow chamber (~~3a~~) into which a fluid flows;
an outflow chamber (~~11c~~) from which flows the fluid that has flown into said inflow chamber (~~3a~~); and
a filter element (~~3~~) of a substantially cylindrical shape partitioning said two chambers, wherein
a guide (~~33~~) for forcibly guiding the flow of the fluid that has flown into said inflow chamber (~~3a~~) in a taper-like fashion toward said filter element (~~3~~) is held inside said inflow chamber (~~3a~~).

Claim 9 (Currently Amended): The filter for trapping foreign matter according to claim 8, further comprising a differential pressure sensor (~~9~~) for detecting the difference in pressure between said inflow chamber (~~3a, 5a, 11c, or 31c~~) and said outflow chamber (~~31c or 11c~~).

Claim 10 (Currently Amended): A filter for trapping foreign matter comprising:

an inflow chamber (~~11c or 31c~~) into which a fluid flows;

an outflow chamber (~~31c or 11c~~) from which flows the fluid that has flown into said inflow chamber (~~11c or 31c~~); and

a filter element (~~31~~) partitioning said two chambers, wherein

said filter element (~~31~~) comprises:

a target trapping element (~~31a~~) for trapping foreign matter which is the target, said target trapping element having a mesh size smaller than a size of the target foreign matter; and

a fall-off preventing element, having a mesh size slightly larger than the size of the target foreign matter, (~~31b~~) for preventing said foreign matter which is the target trapped by said target trapping element (~~31a~~) from falling off, the fall-off preventing element (~~31a~~) being provided on the side surface of the inflow path of said target trapping element, the target trapping element (~~31a~~) and the fall-off preventing element (~~31b~~) trapping the foreign matter therebetween.

Claim 11 (Currently Amended): The filter for trapping foreign matter according to claim 10, further comprising a differential pressure sensor (~~9~~) for detecting the difference in pressure between said inflow chamber (~~3a, 5a, 11c, or 31c~~) and said outflow chamber (~~31c or 11c~~).

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Claim 12 (Currently Amended): The filter for trapping foreign matter according to claim 8, further comprising a differential pressure sensor (9) for detecting the difference in pressure between said inflow chamber (3a, 5a, 11c, or 31c) and said outflow chamber (31c or 11c).